Salome Wairimu

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EDUCATION

Northwestern University 2020, McCormick School of Engineering (3.82 / 4.0)

Bachelor of Science in Computer Science

Relevant Coursework: Scalable Software Architecture, Networking, Data Structures and Algorithms, Design & Analysis of Algorithms, Design Technology and Research, Human Computer Interaction, Intro to Computer Systems, Database Management, Intro to Artificial Intelligence, Intro to Machine Learning, Data Science, Natural Language Processing, Computer Systems Software, Practicum in Intelligent Information Systems.

INDUSTRY EXPERIENCE

Google

Software Engineer, September 2020 - Present

- Developing infrastructure to support actions and card menu experiences on the Discover Product Area team.

Google

Software Engineering Intern, Summer 2019

- Developed a translation feature for the Twitter carousel on the search page to enable users to access content tweeted in a different language from their default search page language.
- Run experiments on content produced by the feature to assess the impact of the feature, the quality of translation, and its effect on user experience. Defined the metrics for measuring translation quality and collected data for over 15 languages.
- Used pandas framework to analyze the results of the experiments and selected the 8 languages to launch the feature in.
- Run an internal demo and presented the feature to the News Product Area team.

Credit Suisse

Technology Summer Intern, Summer 2018

- Developed a linear programming model for Exchange Traded Funds to reduce expense costs on the balance sheet and maximize profit. Integrated model with UI and database using Django.
- Collaborated with two interns to develop a website to increase the Operational Analytics team's client base using JavaScript, HTML, and CSS.
- Built dashboards using Splunk using data from machine logs to visualize what hosts, processes, and modules caused errors during video streaming.

RESEARCH EXPERIENCE

Northwestern University

Undergraduate Researcher, DTR Lab Advisors: Haoqi Zhang, Nell O'Rourke

- Designed, built, and evaluated Knowledge Maps, a novel tool for teaching professional CSS techniques, based on research in learning sciences and programming languages.

Publication

Daniel Zhu and Salome Wairimu Kariuki. 2020. Knowledge Maps: Building Conceptual CSS Knowledge Through Comparison. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20)*. Association for Computing Machinery, New York, NY, USA, 1–6. DOI:https://doi.org/10.1145/3334480.3381444

Undergraduate Researcher, VaultDB Advisor: Jennie Rogers

- Developed a model to predict costs of running secure multi-party computation protocols among data providers on VaultDB. VaultDB is a private data federation that queries the union of the private records of multiple autonomous data stores such that no one learns about the data of its peers.

LEADING, TEACHING & SOCIAL GOOD

Fanaka (fanakaafrica.github.io)

Co-Founder & Project Manager, Summer 2017

- Co-founded Kenya's first student-run college application program for high school students, providing a forum for 4400+ students from rural high schools to learn of summer enrichment programs and college application to colleges in the US.

Teaching Assistant Experience

The responsibilities I have as a teaching assistant include holding office hours to help students with course material and assignments, helping instructors generate assignments and exams, and grading student assignments and exams.

- **Data Structures and Algorithms** January 2020 – June 2020
  - Topics: Data and procedural abstraction, amortized data structures, trees and search trees, hash tables, priority queues, graphs, shortest paths, searching, and sorting.
- **Data Management and Information Processing** September 2019 – December 2019
  - Topics: Data representation, data modeling for relational databases, SQL, and data integration.
- **Intermediate Computer Programming** April 2019 – June 2019
  - Topics: Python syntax, regular expressions, classes, dfs & bfs, neural networks, supervised machine learning.
- **Introduction to Computer Systems** April 2018 – June 2018
  - Topics: Intel x86-64 data representation, assembly, memory, caches, virtual memory and input and output.
- **Object Oriented Programming** September 2017 – December 2017
  - Topics: pointers, dynamic memory allocation, classes, inheritance, abstraction, overloading, and linked lists.

PROJECTS

Whisper Space

- Collaborated on a team of four to build a public information system for museums that detects people approaching and plays whispers from conversations that have been recorded concerning an art piece. In addition, the system responds to a series of hard coded questions.
- Led integration of ultrasonic sensors with esp8266 boards and wrote scripts needed to send recorded distances to a server on a raspberry pi. Developed internal representations for art pieces and did topic and theme extraction from recorded audios to match questions to conversations.

Citizens Police Data Project

- Collaborated on a team of three to analyze complaints against police officers in Chicago. The purpose of the project was to explore patterns in extra-judicial killings, torture or overpolicing targeting certain communities in the Chicago area based on race or economic status.

Equity Global Scholars Web Application

- Developed a full stack application that enables users to create accounts, posts, and comments. The purpose of the web app was to create a secure and centralized forum for Kenyan students studying abroad to access information on internships and other resources.

Cancer Incidence in the US

- Mined data online, developed data models, and created a database of cancer incidence by state and race in the US. This dataset can be used to answer questions on the correlation between poverty levels, insurance levels and cancer incidence levels.

College Scores Web Scraper

- Used Beautiful Soup to build a scraping tool for colleges' median acceptance SAT scores.

My Subscription Addiction

- Collaborated on a team of four to build a web application to track and manage a user's subscription with the goal of helping them save money by unsubscribing from services they no longer use.

The FireTite

- Designed and built an anchor system for fire escape and bailout systems for Darien Fire Department, reducing setup time to under thirty seconds.
- Led user interviewing and performance testing.

LANGUAGES, TOOLS & FRAMEWORKS

Python, C++, Java, JavaScript, HTML, CSS, UNIX, Django, Nodejs, MongoDB, SQL